

NEW RECORDS OF WANDERING SPIDERS FROM TEXAS, WITH A DESCRIPTION OF THE MALE OF *CTENUS VALVERDIENSIS* (ARANEAE: CTENIDAE)¹

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ABSTRACT. The Texan wandering spiders of the family Ctenidae are reviewed, and new records are added for *Leptoctenus byrrhus* and *Ctenus valverdiensis*. *Ctenus valverdiensis* is redescribed, based on the availability of adult male specimens and compared to its nearest relative, *C. mitchelli*. A new record for *C. mitchelli* in Tamaulipas, Mexico, is also listed. Diagnostic characters of Texas ctenid species are included.

Wandering spiders are not well represented in the U.S.A. Only eight species in three genera are known from Texas east to the southern states of the eastern seaboard (Peck 1981). In Texas, these spiders are uncommon and known only from the southern half of the state. Three species from different genera are recorded from the state. It is the purpose here to post new records of the species, where available, and to redescribe *Ctenus valverdiensis* Peck 1981 based on recently acquired adult males. In addition, diagnoses pertinent to identification of Texas material are provided.

Anahita punctulata (Hentz 1844)

Ctenus punctulatus Hentz 1844: 394; F. O. Pickard-Cambridge 1897: 62; Banks 1898: 277; Bishop & Crosby 1926: 184.

Anahita punctulata: Simon 1897: 121; Bonnet 1955: 310; Peck 1981: 158.

Diagnosis. Size: males 6-8 mm, females 7-9 mm. Retromargin of the cheliceral fang bearing 4 teeth and 1-3 denticles. Distal leg segments not or sparsely scopulate. Male palpus with a long, spatulate median lobe; palpal tibia with a short, conical apical apophysis. Female epigynum indistinct (recognizable only by lightly sclerotized internal ducts), not emergent from the ventral surface; without lateral spurs.

Notes. The distribution of *Anahita punctulata* lies primarily in the south-central U.S.A. with a single record in southeastern Arkansas and another in southeastern Texas. The single Texas record is from the Houston area (Peck 1981). We have found no new records of this species.

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Leptoctenus byrrhus Simon 1888

(Figs. 1-2)

Leptoctenus byrrhus Simon 1888: 210; Gertsch 1935: 24.*Ctenus byrrhus*: Simon 1897: 111; F. O. Pickard-Cambridge 1902: 414; Chickering 1937: 280; Peck 1981: 166.

Diagnosis. Size: male approximately 8.5-10.5 mm, female 9.5-13.5 mm. Pars thoracica of cephalothorax higher than pars cephalica. Retromargin of cheliceral fang bearing only three teeth. Scopulae moderately developed. Male palpal tibia with long apophysis, the latter stout basally and bearing a long, curved extension that bends sharply toward the palpal cymbium at mid-length; male palpal tibia excavated distally from base of apophysis. Female epigynum distinct, wider than long, with long and narrow neck; lateral spurs present.

Notes. *Leptoctenus byrrhus* is known from southwest Texas and north-east Mexico on the coastal plains and in the mountains. Peck (1981) reported that members of this species have been taken among detritus and, in one case, in a woodrat nest. Recent collections in Texas have revealed them under rocks and in a cave. Although the cave population shows no troglomorphic characteristics, it is apparently established in the cave because specimens were collected on several occasions over three years. The animals were always collected near the entrance to the cave on both occasions, but not outside the cave under nearby rocks or deeper in the cave. We have observed several specimens of this species in the wild and in captivity and noted the unusual manner in which the animal walks with its front pair of legs held forward like "antennae" (Fig. 1). Even when at rest, but alert, the animal will often hold these legs off the ground. Because the general morphology and markings of the body and the legs have never been illustrated for the species, or for that matter any member of the genus, we provide a dorsal view of a female (Fig. 2).

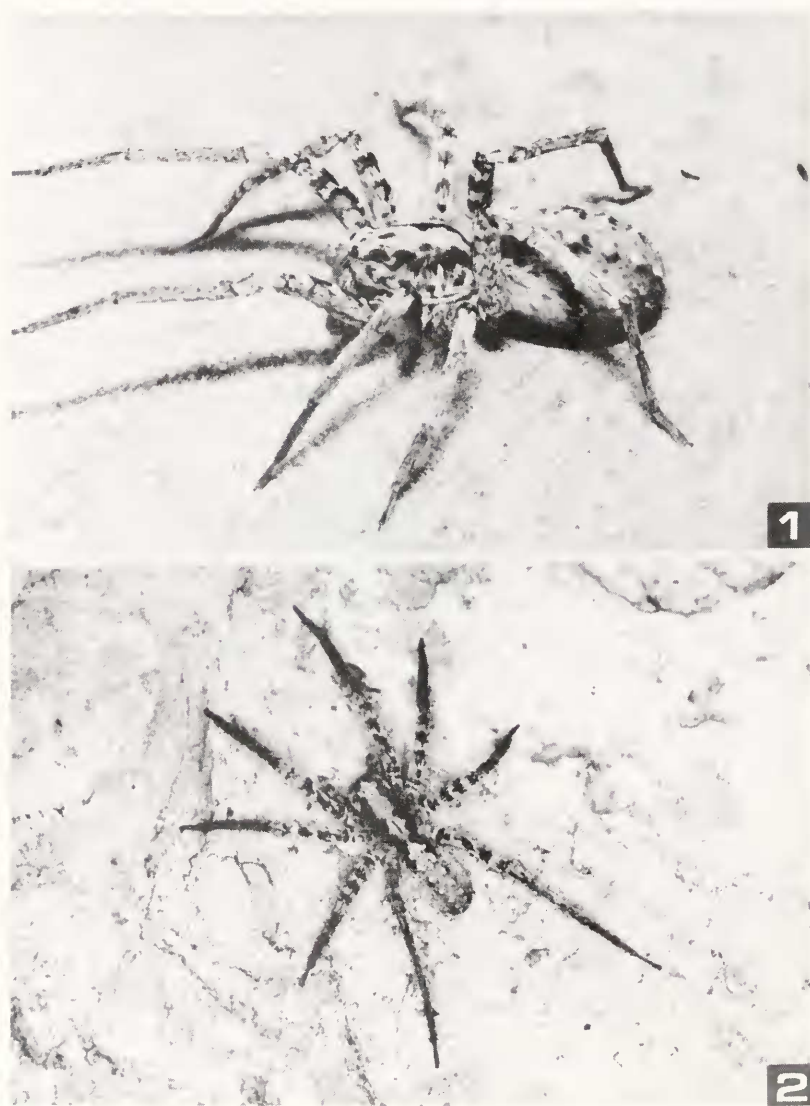
New Records. TEXAS: Kerr Co., "10/7" 1989, E. Galbraith, 1 juvenile (MSU). Bandera Co., Lost Maples State Park, 28-30 April 1988, R. Anderson, 1 male (TAMU), 26 April - 10 May 1986, P. W. Kovarik (TAMU). Bexar Co., 3.8 mi. NE Helotes, 22 Sept. 1995, A. G. Grubbs (TMM); Up the Creek Cave, 14 Nov. 1995, J. C. Cokendolpher, J. R. Reddell, M. Reyes, 1 female (TMM), 1 female (MSU); 10 Sept. 1998, J. C. Cokendolpher, J. Krejca, J. R. Reddell, M. Reyes, 1 female, 1 juvenile male (TMM); 22 April 1999, J. R. Reddell, M. Reyes, 1 juvenile (TMM). Hidalgo Co., Bentsen-Rio Grande State Park, 19 May 1965, W. B. Peck, 1 male (JCCC), 7 Aug. 1990, W. B. Peck, 2 females (1 JCCC, 1 TMM).

Ctenus valverdiensis Peck 1981

(Figs. 3-10)

Ctenus valverdiensis Peck 1981: 164.

Diagnosis. Size large: Male approximately 22-24 mm, female 30 mm. Pars thoracica of cephalothorax on same plane as pars cephalica. Retromargin of cheliceral fang bearing 4-5



Figs. 1-2. *Leptoctenus byrrhus* from Texas. 1, female from Bentsen-Rio Grande State Park holding legs aloft like antennae; 2, dorsal view of female from Up the Creek Cave; note darker more distinct pattern than in specimen from Bentsen State Park. Photos by JCC.

teeth and 1-3 denticles. Scopulae highly developed and covering tarsi, metatarsi, and distal portion of tibiae. Male palpal tibia with long, curved apophysis, the latter stout with a basal lobe; tip of apophysis thick and more or less rounded. Female epigynum distinct, bluntly triangular and broader anteriorly; neck narrow, but short; lateral spurs present.

The unique morphology of the male palp described below provides new characters to distinguish it from its close relative, *Ctenus mitchelli* Gertsch 1971 from caves in southern Tamaulipas (Gertsch 1971).

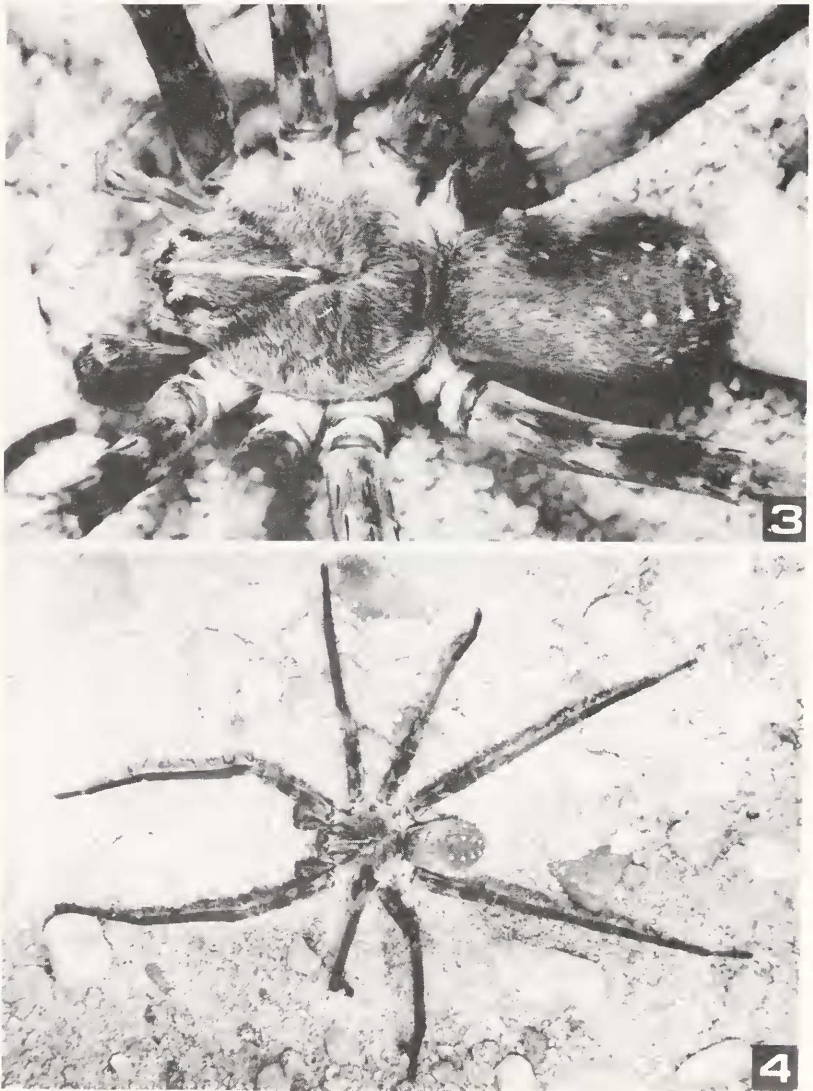
Description of Male: Basic structure and coloration as in female (Peck 1981). Cephalothorax with pars cephalica pronounced, more gradually tapered than in *C. mitchelli* (cf. Figs. 5-6). Tibia of palpus (Figs. 7-9) with long, curved lateral apophysis, this apophysis bearing distinct basal lobe; tibia distinctly shorter than cymbium, with two strong medial setae and one strong dorsolateral seta; embolus and median apophysis as illustrated; palpal bulb subcircular in ventral view; lateral surface of palpal bulb without strong basal process (cf. Figs. 7 and 10).

Coloration of specimens in alcohol: cephalothorax and basal segments of legs orange; distal leg segments orange-brown, abdomen creamy yellow; venter yellow-orange; palps orange-brown, darker distally. No leg bands, cephalothoracic stripe, or abdominal spots evident in preserved specimens. Color of living specimens differs greatly: cephalothorax with black and gray recumbent setae (lightest on lateral borders); thin distinct white stripe running from between PME to thoracic groove. Abdomen covered with black and gray setae, with six pair of small white dots (anterior pair almost indistinguishable); median pairs with faint interconnecting lines. Lateral sides of abdomen with few scattered white spots. Leg coxae and trochanters covered with white setae; other leg segments covered with black setae, bands of legs setae on femora and lateral sides of patellae. Overall body with velvety grayish appearance.

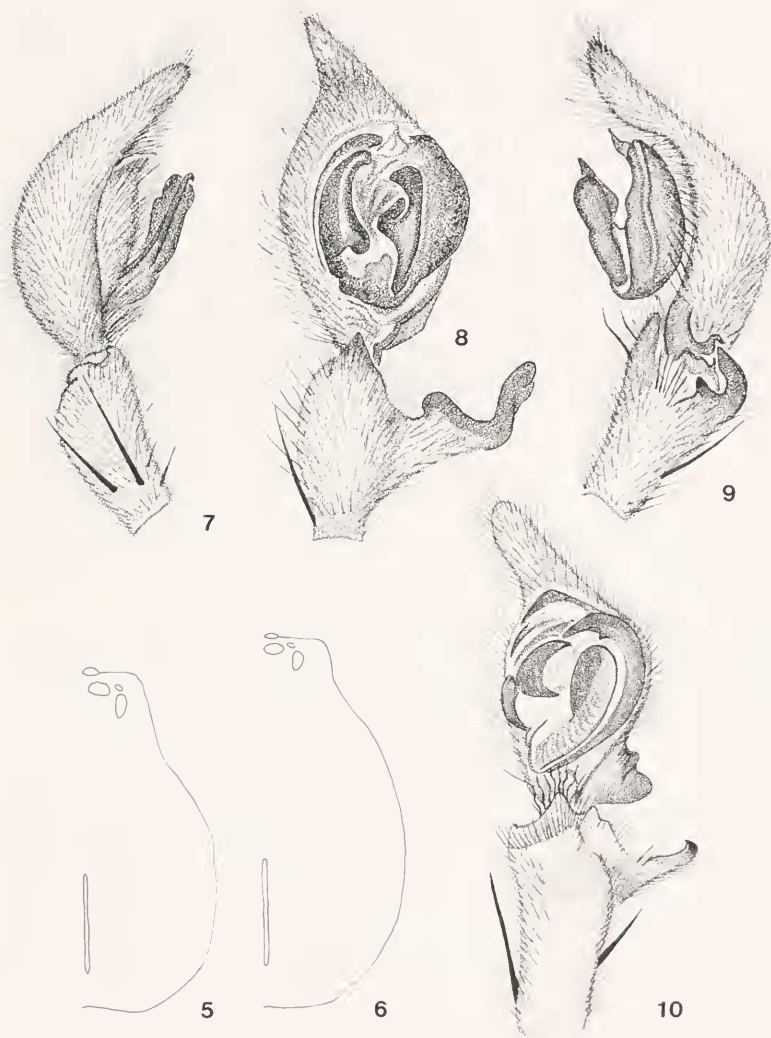
Measurements in mm of two adult males (to nearest tenth): Total L, 22.2/24.1; cephalothorax L, 10.9/10.8; cephalothorax W, 8.75/8.7; femur I L, 12.5/12.5; patella-tibia I L, 18.1/18.8; metatarsus I L, 11.8/12.4; femur II L, 12.2/12.2; patella-tibia II L, 17.2/17.1; metatarsus II L, 10.6/11.3. Eye sizes: AME, 0.43/0.35; ALE, 0.45/0.35; PME, 0.70/0.70; PLE, 0.70/0.70. Eye interdistances: AME-AME, 0.18/0.22; AME-ALE, 0.50/0.50; PME-PME, 0.20/0.20; PME-PLE, 0.40/0.45; PLE-ALE, 0.20/0.22. MOA L, 1.40/1.35; MOA front width, 1.00/0.95; MOA, back width, 1.57/1.48.

New Records: TEXAS: Val Verde Co., Tarantula Cave, at junction of Big Satan and Bluff Canyons, 3 May 1991, L. Bement, 1 male (AMNH); Tarantula Cave, 1 Sept 1991, 1 male, 1 female (TMM), 1 female (AMNH).

Notes. *Ctenus valverdiensis* was described on the basis of an adult female and several juveniles from caves in Val Verde Co., Texas (Peck 1981). It is the largest ctenid known from the state. Tarantula Cave (actually an old abandoned mine shaft) is 8 miles northeast of the Rough Canyon Recreation Area of Lake Amistad (north of Del Rio, Texas), approximately 40 miles east of the type locality. The males from the new series were reared to maturity. The penultimate male did not survive the molt to adulthood on 14 September, but was relatively undamaged. The antepenultimate male collected on 3 May molted on 8 August and again on 11 October to become adult; this specimen survived until February 1992, when it was preserved. Peck (1981) had a penultimate male but did not describe it because the palps were not developed.



Figs. 3-4. Penultimate male *Ctenus valverdiensis* from Tarantula Cave. 3, close-up of body; 4, dorsal view. Photos by JCC.



Figs. 5-10. Morphology of *Ctenus valverdiensis* Peck and *C. mitchelli* Gertsch. 5, dorsal aspect of cephalothorax of *C. valverdiensis*; 6, dorsal aspect of cephalothorax of *C. mitchelli*; 7, mesal aspect of left palpus of male *Ctenus valverdiensis*; 8, ventral aspect of left palpus of male *C. valverdiensis*; 9, lateral aspect of left palpus of male *C. valverdiensis*; 10, ventral aspect of left palpus of male *C. mitchelli*.

The earlier specimens of *C. valverdiensis* (including the penultimate male paratype) and *C. mitchelli* from the Peck Collection are now deposited in the American Museum of Natural History (AMNH), New York. In addition, a specimen of *C. mitchelli* collected from the "Cave at Rio Frio, Ciudad Mante, Tamaulipas, Mexico" by M. Culwell on 16 Feb 1970 is deposited in the California Academy of Sciences, San Francisco.

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LITERATURE CITED

- Banks, N. 1898. Arachnida from Baja California, and other parts of Mexico. Proc. Calif. Acad. Sci., ser. 3, 1: 205-308.
- Bishop, S. C. & C. R. Crosby. 1926. Notes on the spiders of the southeastern United States with descriptions of new species. J. Elisha Mitchell Sci. Soc., 41: 163-212.
- Bonnet, P. 1955. Bibliographia araneorum. Toulouse, vol. 2 (1): 1-918.
- Chickering, A. M. 1937. Notes and studies on Arachnida. III. Arachnida from the San Carlos Mountains, Pp. 271-283 in: The geology and biology of the San Carlos Mountains, Tamaulipas, Mexico. Univ. Mich. Press, Ann Arbor.
- Gertsch, W. J. 1935. New American spiders with notes on other species. Amer. Mus. Novitates, 805: 1-24.
- Gertsch, W. J. 1971. A report on some Mexican cave spiders. Assoc. Mex. Cave Stud. Bull., 4: 47-111.
- Hentz, N. M. 1844. Descriptions and figures of the araneides of the United States. Boston J. Nat. Hist., 4: 386-396.
- Peck, W. B. 1981. The Ctenidae of temperate zone North America. Bull. Amer. Mus. Nat. History, 170(1): 157-169.
- Pickard-Cambridge, F. O. 1897. On cteniform spiders from the lower Amazons and other regions of North and South America, with list of all known species of these groups hitherto recorded in the new world. Ann. Mag. Nat. Hist., 19(6): 52-106.
- Pickard-Cambridge, F. O. 1902. New species of spiders belonging to the genus *Ctenus*, with supplementary notes. Ann. Mag. Nat. Hist., 9(7): 401-415.
- Simon, E. 1888. Études arachnologiques. 21re Memoire, XXIX. Descriptions d'especes et de genres nouveaux de l'Amerique centrale et des Antilles. Ann. Soc. Entomol. France, 8: 203-216.
- Simon, E. 1897. Histoire naturelle des araignées. Paris, vol. 2, 1080 pp.